REMARKS

Please reconsider the application in view of the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of Claims

Claim 21 is pending in this application. Claim 21 is independent; there are no dependent claims.

Rejections Under 35 U.S.C. § 102/103

Claim 21 stands rejected under 35 U.S.C. § 102(e) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,861,393 issued to Temple et al ("Temple"). This rejection is respectfully traversed.

The present application is directed to a drilling fluid formulated to include: an oleaginous fluid that forms the continuous phase; a non-oleaginous fluid that forms the discontinuous phase; an organophillic clay in a concentration of about 0.1% to about 6% by weight; a primary emulsifier which is in sufficient concentration to stabilize the invert emulsion; a weighting agent or bridging agent; and a rheology modifier selected to substantially achieve the result disclosed above, which is a mixture of C_{12} to C_{22} poly-carboxylic fatty acids such that the mixture is added in sufficient concentration so that the trimeric poly-carboxylic fatty acid concentration in the drilling fluid is greater than 0.1 pounds per barrel and is up to 5.0 pounds per barrel.

Claim 21 recites a drilling fluid that includes, *inter alia*, a rheology modifier, which is a mixture of C_{12} to C_{22} poly-carboxylic fatty acids, including at least a dimer poly-carboxylic C_{12} to C_{22} fatty acid and a trimer poly-carboxylic C_{12} to C_{22} fatty acid, such that the

mixture is added in sufficient concentration so that the trimeric poly-carboxylic fatty acid concentration in the drilling fluid is greater than 0.1 pounds per barrel and is up to 5.0 pounds per barrel.

Temple discloses a method for reducing sag or the settlement of weighting agents in an oil or invert emulsion based drilling fluid by adding a low molecular weight polyalkyl methacrylate in an amount that does not significantly increase the viscosity of the drilling fluid. The effective average molecular weight range of the polyalkyl methacrylate is about 40,000 to 90,000. Temple discloses that the preferred concentrations of this additive in the drilling fluid is in the range of about 0.5 ppb to about 3 ppb so that the additive does not significantly increase the viscosity of the drilling fluid. In the Examples, Temple uses RM™ 63 in the mud formulations which the Examiner asserts to be polycarboxlic fatty acid mixture. The Examiner asserts that although Temple does not explicitly set forth that the *trimer* poly-carboxylic fatty acid concentration is greater than 0.1 pounds per barrel and is up to 5.0 pounds per barrel, that it appears the *mixture* in Temple would have "inherently satisfied" this limitation.

Applicant respectfully asserts that Temple neither teaches nor suggests each and every claim limitation of claim 21. A *prima facie* case of obviousness requires that all claim limitations be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981 (CCPA 1974); MPEP §§ 706.02(j), 2143.03. If even a single claim limitation is not taught or suggested by the prior art, then that claim cannot be obvious over the prior art. *Id.* Specifically, although Temple discloses that the preferred concentration of additive, specifically, a *blend* of dimer and trimer fatty acids rheology modifier, is within the range specified by the present application, Temple fails to teach or suggest the specific limitation that the mixture of poly-carboxylic acids be added in sufficient concentration so that the *trimeric* poly-carboxylic fatty acid concentration in the

drilling fluid is greater than 0.1 pounds per barrel and is up to 5.0 pounds per barrel. The present application requires control of the concentration of the trimeric species, as recited in the instant claim, to have a flatter viscosity profile.

Moreover, Applicant also respectfully asserts that the Examiner has not provided any rationale or evidence tending to show inherency *sufficient* to trigger a shift in the burden of proof from the Examiner to the Applicant in accordance with *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980). To properly rely upon the theory of inherency, "the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original). The fact that a certain result or characteristic *may* occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (citing *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981)). Rather, "[t] o establish inherency, the extrinsic evidence '*must make clear* that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted) (emphasis added).

Therefore, because Temple fails to show or suggests all of the claim limitations, as recited in claim 21, claim 21 is patentable over Temple. Accordingly, withdrawal of this rejection is respectfully traversed.

Claim 21 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 2,994,660 issued to Reddie et al ("Reddie") in view of U.S. Patent No. 6,017,854 issued to Van Slyke ("Van Slyke").

As discussed above, claim 21 recites a drilling fluid that includes, *inter alia*, a rheology modifier, which is a mixture of C_{12} to C_{22} poly-carboxylic fatty acids, including at least a dimer poly-carboxylic C_{12} to C_{22} fatty acid and a trimer poly-carboxylic C_{12} to C_{22} fatty acid, such that the mixture is added in sufficient concentration so that the trimeric poly-carboxylic fatty acid concentration in the drilling fluid is greater than 0.1 pounds per barrel and is up to 5.0 pounds per barrel.

Reddie teaches a water-in-oil (invert) emulsion type drilling fluid. This fluid is formed using a polybasic fatty acid polymer and a polyamine and/or polyamino alcohol emulsifier and exhibits, according to Reddie, excellent rheological properties. *See* col. 2, lines 53-62. The water phase may be made up using fresh water, water with various contaminants, or sea water. *See* col. 4, lines 20-32. The oil phase may be made up using either refined or crude oils or other hydrophobic inert fluids; diesel oil or fuel oil are preferable. *See* col. 5, lines 18-29. The water content of the combined oil and water phases is stated at being preferably between about 20 and 65 volume percent, but can be varied to about 10% to 75% by volume with the balance by volume being the oil. *See* col. 4, lines 50-55 and col. 5, lines 42-46. The corresponding oil ranges being then about 35% to 80% by volume and 25% to 90% by volume. The polybasic fatty acid may be a dimer or trimer of an unsaturated C_{12} to C_{24} fatty acid or mixtures of these dimers and trimers. Generally, at least 2.5 and up to 30 pounds per barrel, preferably 10 to 20 pounds per barrel of the fatty acid polymer is employed on the basis of finished, unweighted emulsion. *See* col. 9, lines 66-70.

Van Slyke discloses a fluid that contains one or more non-aqueous fluids, a viscosifying agent, and optionally, weighting agents, organophilic clays, fatty acid dimers and trimers. The fluids taught in Van Slyke are taught as increasing the suspending capacity of the fluid, even in the absence of materials such as water (non-oleaginous fluids), emulsifiers, lime, and polar activators. *See* col. 2, lines 41-44. Moreover, only in select embodiments is the addition of trimeric fatty acids included in the fluids of Van Slyke, and in those embodiments, there is no mention of controlling the concentration of the trimeric species, as recited in the instant claims. Only the total concentration of *all* ingredients selected from the group consisting of dimers and trimers of fatty acids, fluid loss control additives, loss circulation materials, polystyrene, and organophillic clays is suggested.

Applicant respectfully asserts that neither Reddie nor Van Slyke teaches or suggests each and every claim limitation of claim 21. A *prima facie* case of obviousness requires that all claim limitations be taught or suggested by the prior art. See *In re Royka*, 490 F.2d 981 (CCPA 1974); MPEP §§ 706.02(j), 2143.03. If even a single claim limitation is not taught or suggested by the prior art, then that claim cannot be obvious over the prior art. *Id.* Specifically, both Reddie and Van Slyke fail to disclose the specific limitation that the mixture of poly-carboxylic acids be added in sufficient concentration so that the *trimeric* poly-carboxylic fatty acid concentration in the drilling fluid is greater than 0.1 pounds per barrel and is up to 5.0 pounds per barrel. Both Reddie and Van Slyke are silent on controlling the concentration of the trimeric species, as recited in the instant claims.

Therefore, because neither Reddie nor Van Slyke show or suggests all of the claim limitations, as recited in claim 21, claim 21 is patentable over Reddie in view of Van Slyke. Accordingly, withdrawal of this rejection is respectfully traversed.

Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 05542/073001).

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Respectfully submitted,

By _____

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Attachments